

1 **WHAT IS CLAIMED IS:**

2 1. A generator comprising:

3 a base;

4 an annular stator mounted on the base;

5 a rotor base rotatably mounted on the base and in the stator and having a

6 central hole with an inner surface defined through the rotor base and at least one

7 key formed on the inner surface of the central hole;

8 a rotor mounted around the rotor base and having a gap defined between

9 the rotor and the stator;

10 a drive shaft slidably mounted in the central hole in the rotor base and

11 having a top, a bottom, an outer surface and at least one spiral groove defined in

12 the outer surface and extending from the bottom in which the at least one key on

13 the rotor base is slidably mounted;

14 a biasing member mounted between the base and the drive shaft to

15 provide a restitution force to the drive shaft; and

16 a top cover mounted on the base to cover the stator, rotor base, the rotor,

17 the drive shaft and the biasing member and having a central bore through which

18 the top of the drive shaft non-rotatably extends.

19 2. The generator as claimed in claim 1, wherein the base has an axial rod

20 extending upward from the base;

21 the biasing member is mounted around the axial rod and has two ends

22 abutting respectively the base and the bottom of the drive shaft; and

23 the drive shaft has a hole defined in the bottom to receive the axial rod

24 when the drive shaft is pressed downward.

1 3. The generator as claimed in claim 1, wherein the central bore in the
2 top cover has an inner surface and at least one keyway defined in the inner
3 surface; and
4 the drive shaft has at least one rib formed on the outer surface and
5 slidably mounted respectively in the at least one keyway in the central bore of
6 the top cover to keep the drive shaft from rotating relative to the top cover.